Bioinformatics Resource Center: Interoperation

What capability do we want?

- Common repository
- Common web interface
- Shared datasets
  - Biodefense relevant genes
  - SNP data
  - Pathways
- Tools that work on shared systems
- OrthoMCL runs

Status: where we is.

- GFF3 file format
- FTP-site
- BRC-devel
- Progress in some areas of data sharing GO
- Progress in some areas of BRC-GO terms

Central Repository

- Common repository for storage
- Common web interface
- Shared datasets
  - Biodefense relevant genes
  - SNP data
  - Pathways
- Link-capability
- Shared tools
- Tools that work on shared systems

Common repository, web site

- Promote linkage to other centers

- Promote linkage to other services
  - e.g, assembly of organism, orthoMCL, tools

Common web site

- Promoting confusion?

Cross BRC-linkage: URL Construction

- Uniform construction for every site
  - e.g., CMR site
  - requires all sites use the same construction
- Meta site to build URL
  - Takes a datatype using key-value constructs a URL
  - Supports sites changing their web pages

API

- "Simple" code-base
- Emphasis on reads, not writes
- Emphasis on documentation
- Potentially db independent
- Key→value

API: operates on what?

- GFF files:
  - Local
  - Central repository
  - Distributed
- DB
  - Possible?: Gus/chado/ensembl

API: coding practices

- Underlying typecasting
- Vigilant re-use of functions
- Rational cooperation
- Version control
- Documentation
- Testing

Web Services

- Note: most of GFF3 is key-value pairs
- To site: key
- From site: value
- Potential data
  - text
  - html
  - xml
- Distributed, or at central site

Entry Page - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://srs.ebi.ac.uk/cgi-bin/wgetz?-newId+-view+SeqSimpleView+-e+[{UNIPROT%20UNIPARC}-AllText:'adh1*']

G Google Slashdot bb Boing Boing Engadget Pathema Nilno Dictionary mail

EBI ▼ Search EBI ▼ Protein ▼ for adh1

G Google News   Entry Page

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Quick Search | Library Page | Query Form | Tools | Results | Projects | Views | Databanks | HELP

Reset

Query "[{UNIPROT UNIPARC}-AllText:adh1*]" found 431 entries

Apply Options to:

○ selected results only
◉ unselected results only

Result Options

Launch analysis tool:

BlastP ▼ **Launch**

Link to related information:
Link

Save results: **Save**

Display Options

View results using:

	UniProt	Accession	Description	Se
☐	UniProt:ADH1_ALLMI	P80222	Alcohol dehydrogenase, major (EC 1.1.1.1).	
☐	UniProt:ADH1_APTAU	P49645	Alcohol dehydrogenase I (EC 1.1.1.1).	
☐	UniProt:ADH1_ARATH	P06525	Alcohol dehydrogenase (EC 1.1.1.1).	
☐	UniProt:ADH1_ASPFL	P41747	Alcohol dehydrogenase I (EC 1.1.1.1).	
☐	UniProt:ADH1_BACST	P12311	Alcohol dehydrogenase (EC 1.1.1.1) (ADH-T).	
☐	UniProt:ADH1_CAEEL	Q17334	Alcohol dehydrogenase K12G11.3 (EC 1.1.1.1).	
☐	UniProt:ADH1_CANAL	P43067	Alcohol dehydrogenase 1 (EC 1.1.1.1) (40 kDa allergen) (Allergen Cand a 1) (Can a 1) (Can a I).	
☐	UniProt:ADH1_CERCA	P48814	Alcohol dehydrogenase 1 (EC 1.1.1.1).	
☐	UniProt:ADH1_CHICK	P23991	Alcohol dehydrogenase I (EC 1.1.1.1).	
☐	UniProt:ADH1_CLOSA	P13604	NADPH-dependent butanol dehydrogenase (EC 1.1.1.-) (BDH).	
☐	UniProt:ADH1_DROHY	P23236	Alcohol dehydrogenase 1 (EC 1.1.1.1).	
☐	UniProt:ADH1_DROMN	P48586	Alcohol dehydrogenase 1 (EC 1.1.1.1).	

File   Edit   View   Go   Bookmarks   Tools   Help

http://srs.ebi.ac.uk/cgi-bin/wgetz?-newId+-view+SeqSimpleView+-e+[{UNIPROT%20UNIPARC}-AllText:'adh1*']

G Google   Slashdot   bb Boing Boing   Engadget   Pathema   Nilno   Dictionary   mail

Search   EBI   Protein   for   adh1

G Google News   Entry Page

EMBL-EBI
European Bioinformatics Institute

Quick Search   Library Page   Query Form   Tools   Results   Projects   Views   Databanks   HELP

Reset   *Query* "[{UNIPROT UNIPARC}-AllText:adh1*]" found 431 entries   next

Apply Options to:

- ○ selected results only
- ⊙ unselected results only

Result Options

Launch analysis tool:
BlastP   Launch

Link to related information:
Link

Save results: Save

Display Options
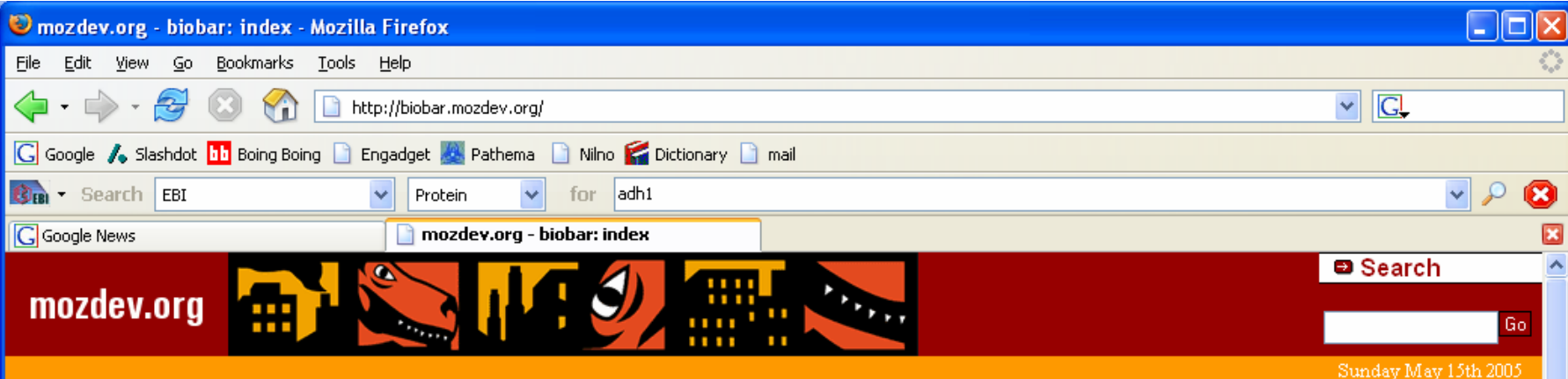
View results using:
SeqSimpleView

Sort results by:
unsorted

- ⊙ ascending
- ○ descending

Show 30 results per page

Printer friendly view ☐

Apply Display Options

	UniProt	Accession	Description	SeqLength
☐	UniProt:ADH1_ALLMI	P80222	Alcohol dehydrogenase, major (EC 1.1.1.1).	374
☐	UniProt:ADH1_APTAU	P49645	Alcohol dehydrogenase I (EC 1.1.1.1).	374
☐	UniProt:ADH1_ARATH	P06525	Alcohol dehydrogenase (EC 1.1.1.1).	379
☐	UniProt:ADH1_ASPFL	P41747	Alcohol dehydrogenase I (EC 1.1.1.1).	349
☐	UniProt:ADH1_BACST	P12311	Alcohol dehydrogenase (EC 1.1.1.1) (ADH-T).	337
☐	UniProt:ADH1_CAEEL	Q17334	Alcohol dehydrogenase K12G11.3 (EC 1.1.1.1).	349
☐	UniProt:ADH1_CANAL	P43067	Alcohol dehydrogenase 1 (EC 1.1.1.1) (40 kDa allergen) (Allergen Cand a 1) (Can a 1) (Can a I).	350
☐	UniProt:ADH1_CERCA	P48814	Alcohol dehydrogenase 1 (EC 1.1.1.1).	257
☐	UniProt:ADH1_CHICK	P23991	Alcohol dehydrogenase I (EC 1.1.1.1).	375
☐	UniProt:ADH1_CLOSA	P13604	NADPH-dependent butanol dehydrogenase (EC 1.1.1.-) (BDH).	388
☐	UniProt:ADH1_DROHY	P23236	Alcohol dehydrogenase 1 (EC 1.1.1.1).	253
☐	UniProt:ADH1_DROMN	P48586	Alcohol dehydrogenase 1 (EC 1.1.1.1).	253
☐	UniProt:ADH1_DROMO	P09370	Alcohol dehydrogenase 1 (EC 1.1.1.1).	253
☐	UniProt:ADH1_DROMT	P22246	Alcohol dehydrogenase 1 (EC 1.1.1.1).	253
☐	UniProt:ADH1_DROMU	P07161	Alcohol dehydrogenase 1 (EC 1.1.1.1).	253
☐	UniProt:ADH1_DRONA	P12854	Alcohol dehydrogenase 1 (EC 1.1.1.1).	253
☐	UniProt:ADH1_EMENI	P08843	Alcohol dehydrogenase I (EC 1.1.1.1) (ADH I).	349
☐	UniProt:ADH1_ENTHI	P35630	NADP-dependent alcohol dehydrogenase (EC 1.1.1.2).	360
☐	UniProt:ADH1_HORVU	P05336	Alcohol dehydrogenase 1 (EC 1.1.1.1).	379
☐	UniProt:ADH1_KLULA	P20369	Alcohol dehydrogenase I (EC 1.1.1.1).	350
☐	UniProt:ADH1_KLUMA	Q07288	Alcohol dehydrogenase 1 (EC 1.1.1.1).	348
☐	UniProt:ADH1_MAIZE	P00333	Alcohol dehydrogenase 1 (EC 1.1.1.1).	379

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mozdev.org

➡ **Search**

[   ] Go

Sunday May 15th 2005

BioBar ■■■■■■

📖 resources: Home | Databases | Customize | Install/Uninstall | Acknowledgments | Mailing | Members | Source Code
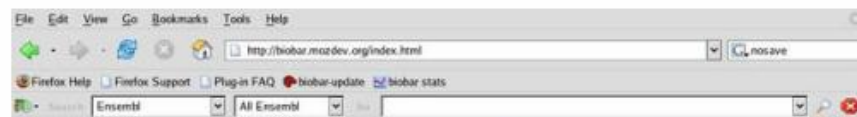
Biobar - A toolbar for browsing biological data and databases.

The **biobar** project is a bioinformatics power-browsing toolbar for Mozilla-based browsers including Firefox and Netscape 7+. This toolbar provides access to all major biological data resources. The primary advantage of this tool is that it allows a biologist to browse and retrieve data from Genomic, Proteomic, Functional, Literature, Taxonomic, Structural, Plant and Animal-specific databases. In addition to the browsing features, **biobar** also provides links to important bioinformatics sites and services including services at the European Bioinformatics Institute (EBI), National Center for Biotechnology Information (NCBI) and DNA Data Bank of Japan (DDBJ). The tool also provides links to major data deposition sites for nucleotide, protein and 3D-structure data. Finally, the menu also contains links to many Sequence, Structure alignment and analysis tools.

The latest release **(Version 1.3)** of biobar provides browsing access to **38 different biological databases** (listed here) as well as a *significant* improvement over the previous versions (See below). With this version, it is possible to customize one's own search databases, and terms.

📦 GET BIOBAR If you have downloaded,used and liked **biobar**, please spread the word by adding this icon to your webpage using the code below.

```
<a href="http://biobar.mozdev.org"><img border="0" src="http://biobar.mozdev.org/biobar_icon.jpg" />
```

📖 **What's New**

🔹 biobar 1.3 - 09 Mar 2005

🔹 biobar- First Release July 2004

📖 **Other Stuff**

🔹 mozdev.org

🔹 EBI Home

File   Edit   View   Go   Bookmarks   Tools   Help

http://biobar.mozdev.org/index.html   G nosave

Firefox Help   Firefox Support   Plug-in FAQ   biobar-update   biobar stats

Search   Ensembl   All Ensembl

BioBar Data Sources

Data Collections	1. EBI Databases with SRS 2. NCBI Databases 3. DNA Database of Japan(DDBj)	Functional Databases	1. aMAZE 2. araCyc 3. BioCyc 4. KEGG 5. Gene Ontology (GO) 6. IntAct 7. Reactome Database
Sequence Databases	1. EMBL Nucleotide Database 2. Ensembl Genome Browser 3. UniProt Sequence Database 4. InterPro 5. Integr8 6. Expert Protein Analysis System (ExPASy) 7. Pfam 8. Alternative Splicing Database (ASD) 9. Glovar Genome Browser	Structural Databases	1. Macromolecular Structure Database (MSD) 2. Research Collaboratory for Structural Bioinformatics (RCSB) 3. Protein Data Bank Japan (PDBj) 4. BMRB 5. OCA 6. Others…
Animal Databases	1. Saccharomyces Genome Database (SGD) 2. Flybase 3. Wormbase 4. Rat Genome Database (RGD) 5. Mouse Genome Informatics (MGI) 6. Zebrafish Information (ZFIN)	Plant Databases	1. Gramene 2. MaizeGDB

What do we want to do with our software?

- Work on everyone's data?
- …with GFF3?
- … across the net?
- Supply services to the BRCs?
- Place on a central site?
- Support as open source?

What services do we want to supply to BRCs?

- Assembly/SNP stuff
- orthoMCL

Failure is its own reward

What is the plan?

- Central site
- URL construction
- Open source software
- API
- Web services
- Biobar